Chilton's

MAY 2, 1983

IRON AGE

THE MAGAZINE FOR METAL PRODUCING MANAGEMENT

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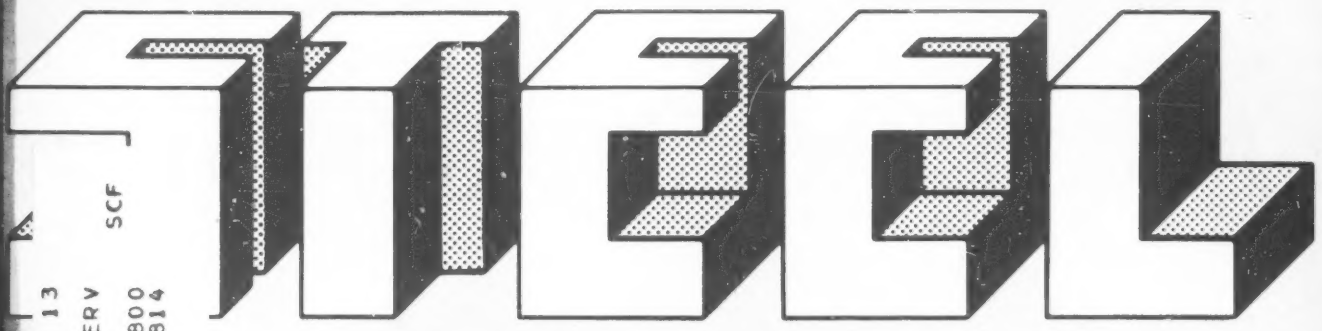

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LONG-TERM RELIEF TO IMPORT PROBLEM COULD BE JUST AROUND THE CORNER

SENSORS IN STEEL: WHERE A PICTURE IS WORTH MORE THAN A THOUSAND WORDS

PROCESS AUTOMATION IN AND WORKING AT INLAND

ANNUAL STEEL/NONFERROUS FINANCIAL ANALYSIS: A YEAR TWO INDUSTRIES LOST A BUNDLE

BEST AVAILABLE COPY

VOL. 226, NO. 13

IRON AGE

MAY 2, 1983

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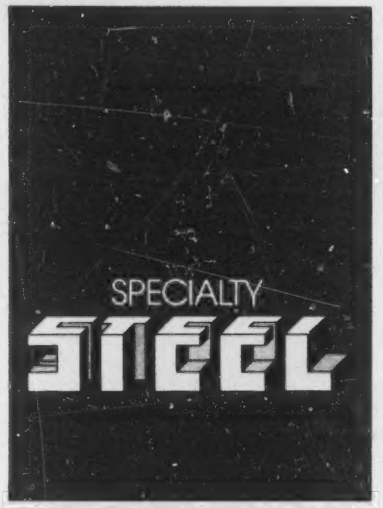

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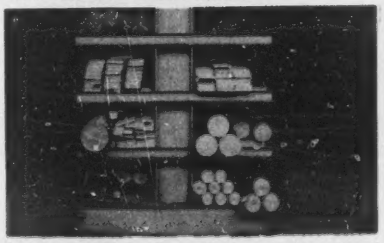

Service centers: Does the recession cloud have a silver lining?

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EFFECTIVE APRIL 18, 1983

MATERIALS NEWSFRONT

Important Notice About Iron Age Scrap Prices

Beginning with the Jan. 21 issue Iron Age has been publishing only one set of scrap prices per issue—those with the effective date as close to the issue date as printing schedules permit. Prices for other weeks are available on a weekly basis through our Metal Price Phone Hotline or through our Weekly Price Newsletter.

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports. Rail transportation, handling and unloading may be charged to the account of the buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural)..... gross-ton 80.50-86.9*
Old range, non-bessemer ..... gross-ton $32.78
Mesabi, regular-unscreened ..... gross-ton $32.53
Mesabi, non-bessemer.....gross-ton $32.25-32.53**

*80.50¢—Rickards Mether as of 1/27/81.
**86.9¢—U. S. Steel as of 3/15/82. Cleveland-Cliffs as of 2/26/82, Oglebay Norton as of 3/25/82, and Hanna Mining as of 2/26/82.

Steel Production, Composite Prices

(Effective April 18, 1983)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1983	To Date 1982
Net tons, in thousands	1,687	1,651	22,147	26,084
Capability Utilization Rate	58.4	57.1	50.5	58.4

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 2/14/83)	26.217	26.217	26.217	25.862
Pig Iron* * (Net ton= 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.* * * (Gross ton=2240 lbs.)	$ 70.83	$ 71.17	$ 72.83	$ 73.17
No. 2 bundles	$ 48.50	$ 49.17	$ 51.83	$ 49.17
Scrap Comparison (Gross Ton)				
No. 1 steel, Pittsburgh	$ 75.50	$ 75.50	$ 77.50	$ 83.50
No. 1 steel, Philadelphia	64.50	65.50	63.50	71.50
No. 1 steel, Chicago	72.50	72.50	77.50	64.50
No. 1 bundles, Detroit	75.50	75.50	76.50	66.50
Low Phos., Youngstown	69.50	69.50	69.50	83.50
No. 1 mach'y cast., Pgh	76.50	76.50	79.50	86.50
No. 1 mach'y cast., Phila	98.50	98.50	98.50	113.50
No. 1 mach'y cast., Chi	110.50	110.50	112.50	119.50

*Finished Steel Composite
Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
* *Pig Iron Composite
Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
* * *Steel Scrap Composite
Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

Nonferrous Prices

(Effective April 18, 1983)
Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum	76.00 (Nom.)	76.00-80.00	1/4/82
Copper (C)	79.50-80.00	78.50-80.00	4/13/83
Lead	21.00-23.00	20.50-23.00	3/30/83
Magnesium Ingot	134.00	125.00	6/1/81
Nickel	329.00	350.00	11/25/81
Titanium Sponge	555.00-585.00	555.00	4/29/82
Zinc	38.00	38.00-40.00	3/29/83

ALUMINUM: 99.5%. COPPER (C) = cathode. LEAD: common grade. MAGNESIUM: 99.8% pig. Velasco, Tex. NICKEL: electro., Port Colborne, Canada. ZINC: high grade.

Antimony, American Laredo, Texas . $2.00
Beryllium-aluminum 5% Be, per lb. contained Be $201.00
Beryllium-copper, per lb. cont. Be $130.00
Beryllium 97% powder 200 ..... $166.00
Bismuth, ton lots ..... $1.55-$1.60
Cadmium, under one ton ..... $1.05-$1.15
Calcium, ton lots, crown $3.05
Chromium, 99.8% $3.75
Cobalt, 99%, cathode $12.50
Gold per troy oz. $443.00
Indium, dollars per troy oz. $3.10
Iridium, dollars per troy oz. $600
Magnesium sticks, 10,000 lbs. $1.91
Mercury, per 76-lb. f.o.b. N.Y. ..$320-$335
Molybdenum, lb. tech. moly oxides, 20 lb. MO can $5.85
Nickel oxide sinter at U.S. points of entry $3.12
Palladium, per troy oz. $140
Platinum, per troy oz. $475
Rhodium, per troy oz. $600.00
Silver ingots, per troy oz. $12.37
Vanadium $4.94
Zirconium sponge ..... $12.00-$17.00
(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb, EX-SMELTER, based on daily market in Penang in Malaysian dollars per kilo.)

Apr. 11—621.24
Apr. 12—626.36
Apr. 13—624.90
Apr. 14—625.45
Apr. 15—625.89

Scrap Prices

Brass Mill Scrap

(Cents per lb; over 20,000 lbs. add 1¢ per lb)

	Solids	Turning
Copper	75½	66¼
Yellow brass	63⅜	61¼
Red brass	69¼	66⅛
Comm. bronze	70⅞	67¾
Mang. bronze	62¼	60½
Free cutting rod ends	59	58

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	69
No. 2 copper wire	60
Light copper	51

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	65
No. 2 copper wire	56
Light copper	47
No. 1 composition	54
No. 1 comp. turnings	50
Hvy. yellow brass solids	36
Hvy. yellow brass turnings	27
Radiators	44

Aluminum

New mixed clips	35	—36
Old sheet	34	—35
Old cast	34	—35
Clean dry borings	34	—35

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	27	—28
Mixed L.C. clips	24	—25
Old sheets and cast	19	—20
Borings and turnings	13	—14
Duraluminum clippings	22	—23

Copper and Brass

No. 1 copper wire	58	—59
No. 2 copper wire	51	—52
Light copper	44	—45
Radiators	37	—38
No. 1 composition	46	—47
No. 1 composition turn'gs	42	—44
Cocks and faucets	32	—33
Clean heavy yellow brass	31	—32
Brass Pipe	31	—32
New soft brass clippings	46	—47

Lead

Heavy soft lead	10	—11
Whole batteries	4	— 5
Type metal	15	—16
Electrotype	17	—18

Nickel

Nickel solids	95	—100
Nickel rod ends	95	—100
Nickel sheets, clips	95	—100
Nickel turnings	45	— 50

Zinc

New zinc clippings	15	—16
Old diecast zinc	9	—10

EFFECTIVE APRIL 18, 1983

MATERIALS NEWSFRONT

(Effective April 18, 1983) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of *Iron Age* editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 75.00 to	$ 76.00
No. 2 hvy. melting	70.00 to	71.00
No. 1 dealer bundles	83.00 to	84.00
No. 1 factory bundles (auto)	85.00 to	86.00
No. 2 bundles	51.00 to	52.00
No. 1 busheling	83.00 to	84.00
Machine shop turn.	7.00 to	8.00
Shoveling turnings	28.00 to	29.00
Cast iron borings	27.00 to	28.00
Low phos. punchings plate	91.00 to	92.00
Heavy turnings	70.00 to	71.00
No. 1 RR hvy. melting	85.00 to	86.00
Rails 2 ft. and under	96.00 to	97.00
Scrap rails, random lgth.	88.00 to	89.00
RR specialties	93.00 to	94.00
No. 1 machinery cast	76.00 to	77.00
Cupola cast	69.00 to	70.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	590.00 to	600.00
18-8 turnings	490.00 to	500.00

Chicago

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	61.00 to	62.00
No. 1 dealer bundles	84.00 to	85.00
No. 1 factory bundles (auto)	85.00 to	86.00
No. 2 dealer bundles	49.00 to	50.00
No. 1 busheling	79.00 to	80.00
Shredder scrap	75.00 to	76.00
Machine shop turn.	17.00 to	18.00
Mixed bor. and turn.	18.00 to	19.00
Shoveling turnings	24.00 to	25.00
Cast iron borings	40.00 to	41.00
Low phos. forge crop	89.00 to	90.00
Low phos. punchings plate ¼ in. and heavier	96.00 to	97.00
Low phos. 2 ft. and under	90.00 to	91.00
No. 1 RR hvy. melting	79.00 to	80.00
Scrap rails, random lgth.	71.00 to	72.00
Reroller rails	96.00 to	97.00
Rails, 2 ft. and under	93.00 to	94.00
RR couplers and knuckles	81.00 to	82.00
RR car axles	104.00 to	105.00
No. 1 machinery cast	110.00 to	111.00
Cupola cast	95.00 to	96.00
Stove plate	94.00 to	95.00
Steel car wheels	82.00 to	83.00
Stainless		
18-8 bundles and solids	550.00 to	560.00
18-8 turnings	450.00 to	460.00
430 bundles and solids	135.00 to	140.00
430 turnings	100.00 to	105.00

Philadelphia

No. 1 hvy. melting	$ 63.00 to	$ 66.00
No. 2 hvy. melting	54.00 to	57.00
No. 1 dealer bundles	74.00 to	77.00
No. 2 dealer bundles	43.00 to	46.00
No. 1 busheling	74.00 to	77.00
Shredder scrap	73.00 to	76.00
Machine shop turn.	23.00 to	26.00
Mixed bor. and turn.	23.00 to	26.00
Shoveling turnings	43.00 to	46.00
Low phos. 5 ft. and under	73.00 to	76.00
Low phos. 2 ft. punchings	91.00 to	94.00
Electric furnace bundles	95.00 to	98.00
RR specialties	80.00 to	83.00
Rails, 2 ft. and under	93.00 to	96.00
Cupola cast	60.00 to	63.00
Heavy breakable cast	53.00 to	56.00
No. 1 machinery cast	97.00 to	100.00

Detroit

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 49.00 to	$ 50.00
No. 2 hvy. melting	47.00 to	48.00
No. 1 dealer bundles	75.00 to	76.00
No. 2 bundles	28.00 to	29.00
No. 1 busheling	72.00 to	73.00
Drop forge flashings	44.00 to	45.00
Machine shop turn.	27.00 to	28.00
Mixed borings and turn.	13.00 to	14.00
Shoveling turnings	27.00 to	28.00
Cast iron borings	13.00 to	14.00
Heavy breakable cast	32.00 to	33.00
Mixed cupola cast	48.00 to	49.00
Automobile cast	71.00 to	72.00
Stainless		
18-8 bundles and solids	480.00 to	490.00
18-8 turnings	360.00 to	370.00
430 bundles and solids	120.00 to	130.00

Youngstown

No. 1 hvy. melting	$ 62.00 to	$ 63.00
No. 2 hvy. melting	54.00 to	55.00
No. 1 dealer bundles	74.00 to	75.00
No. 2 dealer bundles	39.00 to	40.00
Machine shop turn.	2.00 to	3.00
Shoveling turnings	7.00 to	8.00
Low phos. plate	69.00 to	70.00
Electric furnace bundles	70.00 to	71.00
Galvanized bundles	60.00 to	61.00

Cleveland

No. 1 hvy. melting	$ 64.00 to	$ 65.00
No. 2 hvy. melting	29.00 to	30.00
No. 1 dealer bundles	74.00 to	75.00
No. 1 factory bundles	81.00 to	82.00
No. 2 bundles	24.00 to	25.00
No. 1 busheling	74.00 to	75.00
Machine shop turn.	2.00 to	3.00
Mixed bor. and turn.	2.00 to	3.00
Shoveling turnings	5.00 to	6.00
Cast iron borings	5.00 to	6.00
Cut structural & plates, 2 ft. and under	92.00 to	93.00
Low phos. punchings plate	92.00 to	93.00
Drop forge flashings	33.00 to	34.00
Foundry steel, 2 ft. & under	59.00 to	60.00
No. 1 RR hvy melting	63.00 to	64.00
Rails, 2 ft. and under	96.00 to	97.00
Rails, 18 in. and under	97.00 to	98.00
Steel axle turnings	69.00 to	70.00
Railroad cast	82.00 to	83.00
No. 1 machinery cast	89.00 to	90.00
Cupola cast	62.00 to	63.00
Stove plate	47.00 to	48.00
Stainless		
18-8 bundles	305.00 to	315.00
18-8 turnings	255.00 to	265.00
430 bundles	80.00 to	85.00

Buffalo

No. 1 hvy. melting	$ 33.00 to	$ 34.00
No. 2 hvy. melting	23.00 to	24.00
No. 1 busheling	38.00 to	39.00
No. 1 dealer bundles	36.00 to	38.00
No. 2 bundles	20.00 to	21.00
Machine shop turn.	9.00 to	10.00
Mixed bor. and turn.	16.00 to	17.00
Shoveling turnings	18.00 to	19.00
Cast iron borings	15.00 to	16.00
Low phos. plate	56.00 to	57.00
Structural and plate, 2 ft. and under	54.00 to	55.00
Rails, 2 ft. and under	50.00 to	51.00
Scrap rails, random lgth.	30.00 to	31.00
No. 1 machinery cast	71.00 to	72.00
No. 1 cupola cast	48.00 to	49.00

St. Louis

No. 1 hvy. melting	$ 61.00 to	$ 62.00
No. 2 hvy. melting	50.00 to	51.00
Foundry steel, 2 ft.	50.00 to	51.00
No. 1 dealer bundles	61.00 to	62.00
No. 2 bundles	47.00 to	48.00
Machine shop turn.	12.00 to	13.00
Shoveling turnings	18.00 to	19.00
Cast iron borings	30.00 to	31.00
No. 1 RR hvy. melting	61.00 to	62.00
Rails, random length	61.00 to	62.00
Rails, 18 in. and under	76.00 to	77.00
RR specialties	80.00 to	81.00
Cupola cast	70.00 to	71.00
Heavy breakable cast	48.00 to	49.00
Stove plate	82.00 to	83.00
Cast iron car wheels	49.00 to	50.00
Rerolling rails	96.00 to	97.00
Unstripped motor blocks	55.00 to	56.00

Birmingham

No. 1 heavy melting	$ 64.00 to	$ 65.00
No. 2 heavy melting	59.00 to	60.00
No. 1 dealer bundles	64.00 to	65.00
No. 2 bundles	45.00 to	46.00
No. 1 busheling	64.00 to	65.00
Shredder scrap	77.00 to	78.00
Machine shop. turn.	24.00 to	25.00
Shoveling turnings	35.00 to	36.00
Cast iron borings	35.00 to	36.00
Electric furnace bundles	64.00 to	65.00
Elec. furnace, 3 ft. & under	59.00 to	60.00
Structural and plate, 2 ft.	79.00 to	80.00
Structural and plate, 4 ft.	77.00 to	78.00
No. 1 RR hvy. melting	63.00 to	64.00
Scrap rails, random lgth.	68.00 to	69.00
Rails, 18 in. and under	86.00 to	87.00
Angles and splice bars	76.00 to	77.00
No. 1 cupola cast	84.00 to	85.00
Unstripped motor blocks	59.00 to	60.00

Cincinnati

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 51.00 to	$ 52.00
No. 2 hvy. melting	48.00 to	49.00
No. 1 dealer bundles	57.00 to	58.00
No. 2 bundles	30.00 to	31.00
Machine shop turn.	6.00 to	7.00
Shoveling turnings	10.00 to	11.00
Cast iron borings	11.00 to	12.00
Low phos. 18 in. and under	78.00 to	79.00
Rails, random length	60.00 to	61.00
Rails, 2 ft. and under	82.00 to	83.00
No. 1 cupola cast	65.00 to	66.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	69.00 to	70.00

New York

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 34.00 to	$ 35.00
No. 2 hvy. melting	30.00 to	32.00
No. 2 dealer bundles	22.00 to	23.00
Mixed bor. and turn.	7.00 to	8.00
Machine shop turn.	4.00 to	5.00
Shoveling turnings	10.00 to	12.00
Clean cast. chem. borings	34.00 to	35.00
No. 1 machinery cast	89.00 to	90.00
Mixed yard cast	38.00 to	39.00
Heavy breakable cast	14.00 to	15.00
Stainless		
18-8 prepared solids	480.00 to	500.00
18-8 turnings	375.00 to	390.00
430 prepared solids	70.00 to	80.00
410 solids	60.00 to	70.00

Boston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	28.00 to	30.00
No. 1 dealer bundles	40.00 to	42.00
No. 2 bundles	29.00 to	31.00
No. 1 busheling	40.00 to	42.00
Shredder scrap	43.00 to	45.00
Machine shop turn.	3.00 to	5.00
Shoveling turnings	7.00 to	9.00
No. 1 machinery cast	105.00 to	110.00
Mixed cupola cast	28.00 to	30.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 43.00 to	$ 45.00
No. 2 hvy. melting	35.00 to	37.00
No. 1 dealer bundles	30.00 to	32.00
No. 2 dealer bundles	14.00 to	16.00
Machine shop turn.	6.00 to	8.00
Cast iron borings	6.00 to	8.00
No. 1 cupola cast	85.00 to	87.00

Los Angeles

No. 1 hvy. melting	$ 42.00 to	$ 44.00
No. 2 hvy. melting	31.00 to	33.00
No. 1 dealer bundles	29.00 to	31.00
No. 2 dealer bundles	11.00 to	13.00
Machine shop turn.	6.00 to	8.00
Shoveling turnings	10.00 to	12.00
Cast iron borings	6.00 to	8.00
Elec. furnace, 1 ft. and under (foundry)	86.00 to	88.00
No. 1 cupola cast	88.00 to	90.00

Seattle

No. 1 hvy. melting	$ 60.00 to	$ 62.00
No. 2 hvy. melting	49.00 to	51.00
No. 2 bundles	38.00 to	40.00
No. 1 cupola cast	94.00 to	96.00
Mixed yard cast	81.00 to	83.00

Hamilton, Ont.

Brokers buying price per net ton on cars:

No. 1 heavy melting	$ 55.00
No. 2 heavy melting cut 2 ft. and under	52.00
No. 1 dealer bundles	60.00
No. 2 bundles	30.00
Mixed steel scrap	34.00
Bush. new fact. prep'd.	58.00
Bush. new fact. unprp'd.	50.00
Machine shop turn.	25.00
Short steel turn.	28.00
Mixed bor. and turn.	15.00
Cast scrap	48.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 69.00 to	$ 70.00
No. 2 hvy. melting	53.00 to	55.00
No. 2 bundles	36.00 to	38.00
Machine shop turn.	20.00 to	21.00
Crushed turnings	36.00 to	38.00
Shredder scrap	69.00 to	70.00
Cut structural plate 2 ft. and under	86.00 to	88.00
Unstripped motor blocks	60.00 to	62.00
Cupola cast	72.00 to	74.00

STEEL PRICES

Codes identify Producers listed in the Key on page 79. (Prices quoted are mill base prices in cents per pound unless otherwise noted and do not reflect extras or surcharges.) N.A.—Not available.

Billets, Blooms, Slabs
(Dollars per net ton)

Carbon Rerolling, Midwest	
W5	$366.00
N4	$366.00
West	
C6	$346.00
Carbon Forging, East	
B3(3), C10, U1	$453.00
R3	$453.00
Midwest	
R3, U1, W5	$453.00
S1	$453.00
C10	$453.00
K2	$453.00
W5	$453.00
West	
B3(2)	$463.00
C6	$453.00
South	
A7	$453.00
Alloy, East	
R3, C10	$492.00
B3	$492.00
Midwest	
W8, W5, C10	$492.00
S1, U1	$492.00
R3	$492.00
West	
B3	$502.00
C6	$469.00
South	
A7	$492.00

Piling Sheet Steel
(cents per lb)

Midwest	
U1	26.45

Structurals

Carbon, East	
B3(2)	23.90
U1, J3	23.90
Midwest	
A7	24.15
C20	22.90
W8	22.90
I3, T10, U1, N4	23.90
West	
C6	25.10
U1	24.40
B3(2)	21.65
South	
C16, U1	23.90
T10	22.90
A8	Cmp*
High-Strength, Low Alloy, East	
B3(2)	23.90
U1, J3	23.90
Midwest	
N4	23.90
W8	24.15
U1	23.90
I3	23.90
West	
U1, A7	24.40
B3(2)	21.65
South	
U1, C16	23.90
Wide Flange, Carbon, East	
B3	23.90
U1, A7, J3	23.90
Midwest	
U1	23.90
N4	23.90
I3	23.90
West	
U1	24.40
C6	24.15
South	
A7	24.15

Strip

Hot-Rolled, Carbon, Cut ll Edge—all widths, East	
B3, U1	22.05
J3	22.05
Midwest	
A7, D1	22.05
I4	21.45
S1, J3, D1	22.05
W3	22.05
N4	22.55
W5	22.05
U1	22.05
B3, G2, I3, M2, R3, G3	22.05
West	
K1	20.80
B3	24.70
South	
R3	22.05
Cold-Rolled, Carbon Max. 25%, East	
E4	29.75
R7, S10, B4	29.60
P15	24.80
S7	Cmp*
U1	35.30
D1(1)	Cmp*
B4	31.55
Midwest	
G4	24.80
I4	35.30
W14	22.95
S1, J4	34.05
T4	Cmp*
*Composite pricing	
West	
U1	33.25
High-Strength, Hot-Rolled, Low Alloy, Cut Edge & Mill Edge—all widths, (plus extras)†	
Midwest	
M2, G3, R3, W3, I4, J3, G2, I3	22.05
A7	22.05
S1	22.05
West	
K1	22.05
South	
R3	22.05
High-Strength, Cold-Rolled, Low Alloy, Mill Edge, East	
R7	29.00
Midwest	
S1	32.00
Alloy, Hot-Rolled, Midwest (plus extras)†	
S1	24.60
G4	25.80
I4	23.70
Alloy, Cold-Rolled, East	
C11, E4, M8	43.35
R7	32.75
B4	42.60
P15	32.10
Midwest	
I4	41.80
S1	42.30

Sheets
Hot-Rolled, Carbon (18 Ga & Hvyr), East

B3	22.05
J3	22.05
U1	22.05
Midwest	
A7, U1, B3, G2, G3, I3, M2, R3, W3	22.05
S1, W5, D1	22.05
J3	22.05
I4	21.15
West	
U1	21.30
K1	22.05
South	
R3	22.05
Cold-Rolled, East, Class I	
B3(2), U1	26.15
J3	26.15
Midwest	
B3, I3, G3, R3, M2, U1(2)	26.15
G2, W3, M11	26.15
I4	22.00
J3, A7	26.15
S1, W5, D1	26.15
West	
U1	26.65
South	
R3	24.65
Galvanized (hot-dipped), East	
B3(2), U1	28.00
Midwest	
J3, D1	28.00
I3, W5, S1	28.00
U1, A7, R3, Y1	28.00
G2, W3, M11	28.00
West	
K1	27.15
U1	28.50
South	
U1	28.00
R3	28.00
Enameling, Midwest	
A7, I3, U1, J3	27.65
S1	26.50
Long-Terne, Midwest	
W5	28.30
A7, U1	29.35
R3	29.35
†Actual weight basis	

Wire Rod

East	
B3(2)	22.35
U1	22.35
Midwest	
N4	22.35
U1, K2	22.35
West	
A7	22.00
C6	21.45
B3	23.25
South	
G7	22.35

Tinplate
Electrolytic Tinplate
Single Reduced (70 lb)

East	per base box
B3, J3	$26.29
U1	26.29
Midwest	
B3	$26.29
U1	26.29
J3	26.29
M11	26.29
W3	26.29
W5	26.29
West	
K1	$26.79
U1	26.79
South	
U1	$26.29
Double Reduced (55 lb)**	
Midwest	
M11 (50 lb)	$21.49
B3, J3	21.49
U1	21.49
W3	21.49
W5	21.49
West	
K1	$21.99
U1	21.99
South	
U1	$21.49
Black Plate	
Single Reduced (75 lb)*	
East	
B3	$24.01
Midwest	
J3	$24.01
M11	24.01
I3, U1, W5	24.01
W3	24.01
West	
K1	$24.01
U1	23.36
Double Reduced (55 lb)	
East	
B3	$18.93
Midwest	
M11	$18.93
W5, U1	18.93
J3	18.93
W3	18.93
W5	18.93
West	
U1	$18.93
South	
U1	$18.93

*70 lb—base weight extra 45¢
**50 lb—base weight extra $1.40

Bars
Carbon Steel, Hot-Rolled (Special quality)

East	
R3, K3	25.80
R5	25.80
B3(3), J3	25.80
U1, C10	25.80
Midwest	
A7	23.95
U1, I3, I4, C20, N4	25.80
R3, T10	25.80
K2	25.80
I3	19.50*
West	
B3	25.80
C6	24.45
B3	24.70
South	
A8	20.65
A7	25.80
C16	25.80
Cold-Finished Carbon, East	
A11	22.15
R3	33.75
C21	21.15
J3(4), L2	31.00
C2	23.025
M8, W10, T11, S8	31.00
N1	24.475
R4	22.25
B4	31.00
M1	23.025
B4, C10	31.00
Midwest	
B5, W10, Y1, W8, R3	33.25
J3	31.00
B1	19.80
L2	30.75
N9	31.00
P3	19.85+CMS
W14	22.20
J3(3)	31.00
B5	31.25
J3	31.00
West	
B5	31.20
B5	34.90
R3	37.15
South	
B5	32.85
J3	34.00
C16	24.40
J3	31.95
Alloy, Hot-Rolled, East	
B3(2), R5, K3, C10, U1	27.95
R3	27.95
J3	27.95
Midwest	
A7, U1, R3	27.95
I3, C10	27.95
I4	27.95
I3	21.00*
West	
B3	27.95
B5	18.50
C6	26.60
B3	27.10
South	
A7	24.85
A8	22.00
Alloy, Cold Drawn, East	
L2	35.20
R3, N1, C2	37.90
M1	28.025
R4	25.65
A11	30.50
J3, W10, L2	34.85
T11, S8	34.85
C10	34.85
J3(2)	34.25
Midwest	
B5, R3, C10	37.35
C2	28.275
J3, M9, W10	34.85
P3	22.75
B1	22.70
N9	34.85
L2	34.85
B5	35.10
J3	36.0
J3	34.85
West	
R3	40.75
B5	35.20
B5	38.25
South	
J3	35.85
C16	28.00
B5	36.75

Plates

Carbon Steel, East	
B3(2), U1	25.75
L4	25.75
P2	25.75
J3	26.75
Midwest	
B3, S1	25.75
I3	25.75
J3, A7	22.80
U1, I4	25.75
R3	26.75
West	
A7, B3, C6, O2	24.25
K1	23.50
U1	25.75
South	
R3	25.75
A7	25.75
U1	25.75
Alloy, East	
B3, J3	33.55
U1, L4	33.55
P2	33.55
J3	34.55
Midwest	
B3	33.55
G2, G3	33.55
I4, U1	33.55
West	
B3	33.55
O2	30.55
K1	31.30
South	
A7	27.55

Wire

Carbon Steel Wire, East	
B3(2)	27.10
U1	27.70
A11	22.15
Midwest	
U1	27.70
A7, R3	24.80
N4, W7	27.40
K2	24.20
South	
A8	22.85
West	
A7	25.95
C1	24.95

STEEL PRICES

Producer Key
With Principal Offices

A4 American Cladmetals Co., Carnegie, Pa.
A7 Armco Inc., Middletown, Ohio
A8 Atlantic Steel Co., Atlanta, Ga.
A11 Atlantic Wire Co., Branford, Conn.

B1 Baron Drawn Steel Corp., Toledo, Ohio
B3 Bethlehem Steel Corp., Bethlehem, Pa.
B4 Blair Strip Steel Co., New Castle, Pa.
B5 Bliss & Laughlin Steel Co., Harvey, Ill.

C1 Calstrip Corp., Los Angeles
C6 CF&I Steel Corp., Pueblo, Colo.
C10 Copperweld Steel Co., Warren, Ohio
C11 Crucible Divisions, Colt Industries, Pittsburgh, Pa.
C15 G. O. Carlson, Inc., Thorndale, Pa.
C16 Connors Steel Co., Birmingham, Ala.
C20 Calumet Steel Div., Chicago Heights, Ill.
C21 Cumberland Steel Co., Cumberland, Md.

D1 Detroit Strip Div., Cyclops Corp.
D2 Driver Wilbur B., Co., Newark, N. J.
D3 Driver Harris Co., Harrison, N. J.

E3 Enamel Products & Plating Co., McKeesport, Pa.
E4 Elliot Bros. Steel Co., New Castle, Pa.

F1 Firth Sterling, Inc., McKeesport, Pa.

G2 Granite City Steel Co., Granite City, Ill.
G3 Great Lakes Steel Division, National Steel Corp., Ecorse, Mich.
G4 Greer Steel Co., Dover, O.
G5 Green River Steel Corp., Owensboro, Ky.
G6 Gibraltar Steel Corp., Buffalo, N. Y.
G7 Georgetown Steel Corp., Georgetown, S. C.
G8 Guterl Special Steel Corp.

H1 Hercules Drawn Steel Corp., Livonia, Mich.

I2 Ingersoll Steel Div., New Castle, Ind.
I3 Inland Steel Co., Chicago, Ill.
I4 Interlake Steel Corp., Chicago

J2 Jessop Steel Corp., Washington, Pa.
J3 Jones & Laughlin Steel Corp., Pittsburgh
J4 Joslyn Mfg. & Supply Co., Chicago
J5 Judson Steel Corp., Emeryville, Calif.

K1 Kaiser Steel Corp., Fontana, Calif
K2 Keystone Consolidated Industries, Inc.
K3 Kentucky Electric Steel Co., Ashland, Kentucky
K5 Kemco Div., Foote Mineral Co., Keokuk, Iowa

L2 La Salle Steel Co., Chicago
L3 Lone Star Steel Co., Dallas
L4 Lukens Steel Co., Coatesville, Pa.
L5 Litho-Strip Corp., Chicago

M2 McLouth Steel Products Corp.
M4 Mid States Steel & Wire Co., Crawfordsville, Ind.
M8 Mill Strip Products Div., National Steel Service Center, National Steel Corp.
M9 Moltrup Steel Products Co., Beaver Falls, Pa.
M11 Midwest Steel Div., National Steel Corp., Portage, Ind.

N1 Northeast Precision Steel Co., Boston, Mass.
N4 Northwestern Steel & Wire Co., Sterling, Ill.
N6 Northwest Steel Rolling Mills, Seattle, Wash.
N9 Nelsen Steel & Wire Co., Chicago, Ill.
N10 North Star Steel Co., Saint Paul, Minnesota

O2 Oregon Steel Mills, Portland, Ore.

P2 Phoenix Steel Corp., Claymont, Del.
P3 Wyckoff Steel Div., Plymouth, Mich.
P9 Pacific States Steel Co., Niles, Cal
P13 Penn Dixie Steel Corp., Kokomo, Ind.
P14 Pacific Tube Co., Los Angeles
P15 Philadelphia Steel and Wire Corp., Phila.

R3 Republic Steel Corp., Cleveland
R4 Ramco Steel Co., Buffalo, N. Y.
R5 Roblin Steel Corp., Inc., North Tonawanda, N. Y.
R6 Rodney Metals, Inc., New Bedford, Mass.
R7 Rome Strip Steel Co., Rome, N. Y.

S1 Sharon Steel Corp., Sharon, Pa.
S7 Stanley Works, New Britain, Conn.
S8 Superior Drawn Steel Co., Monaca, Pa.
S10 Seneca Steel Service, Buffalo, N. Y.
S16 Southern Precision Steel Co., Gulfport, Miss.

T4 Thomas Steel Strip Co., Warren, O.
T5 Timken Company, Steel Division, Canton, O.
T7 Texas Steel Co., Fort Worth, Tex.
T9 Triumph Electro Corp., Chicago, Ill.
T10 Tennessee Forging Steel Corp., Harriman, Tenn.
T11 Teledyne Columbia-Summerill, Carnegie, Pa.

U1 United States Steel Corp., Pittsburgh, Pa.

W3 Weirton Steel Division, National Steel Corp., Weirton, West Va.
W5 Wheeling-Pittsburgh Steel Corp.
W7 Wilson Steel & Wire Co., Chicago
W10 Wyckoff Steel Div., Ampco-Pittsburgh Corp., Pittsburgh, Pa.
W14 Whittaker Steel Strip Div., Detroit, Mich.

Steel Service Center Prices

Price, Dollars per 100 lb

Cities* / City Delivery Charge*	Sheets			Strip	Plates	Shapes	Bars		Alloy Bars			
	Hot-Rolled (10 gage)	Cold-Rolled (20 gage)	Galvanized (16 gage)	Hot-Rolled Strip	Plates	Standard Structurals	Hot-Rolled (merchant)	Cold Finished	Hot-Rolled 8620 As Rolled	Hot-Rolled 4140 Annealed	Cold-Drawn 8620 As Rolled	Cold-Drawn 4140 Annealed
Atlanta	22.82	27.91	30.85	32.00	24.87	27.14	18.55	33.15	42.10	52.60	69.58	73.19
Baltimore	30.00	26.59	34.60	36.75	30.24	32.60	20.27	36.44	55.85	59.91	67.79	76.32
Birmingham	22.70	28.30	31.71	32.31	24.70	26.98	18.16	33.62	49.31	68.90	68.16	74.43
Boston	25.28	29.94	33.94	44.44	37.16	37.52	20.68	40.96	48.40	52.69	62.29	67.33
Buffalo	28.17	33.76	39.72	43.01	34.96	28.77	17.57	38.85	39.03	48.82	58.33	64.06
Chicago	23.88	29.02	31.40	29.72	24.41	26.35	15.64	31.16	35.22	39.47	45.50	50.88
Cincinnati	24.17	29.98	32.82	32.02	26.12	27.61	15.18	32.27	35.17	40.02	45.20	51.05
Cleveland	26.57	31.04	33.35	32.65	27.23	28.47	15.55	32.90	36.23	41.57	46.44	52.48
Denver	32.01	38.28	36.73	41.26	36.46	35.59	21.15	44.51	51.78	59.12	67.62	75.96
Detroit	25.02	31.65	32.95	32.42	26.31	26.79	15.04	32.56	35.65	39.68	45.12	51.26
Houston	23.32	29.62	33.90	41.35	34.12	38.36	17.62	39.25	39.26	45.22	53.75	60.10
Kansas City	24.43	28.21	31.43	30.53	30.66	33.35	17.37	34.33	42.43	51.71	57.20	64.82
Los Angeles	30.05	33.60	39.14	45.92	37.83	38.95	33.49	50.38	62.24	72.74	78.34	88.90
Memphis	31.68	36.62	36.40	38.57	30.45	34.49	21.97	41.48	52.82	56.96	67.85	77.44
Milwaukee	23.40	29.46	32.07	31.10	27.18	27.40	15.17	32.21	35.61	40.88	46.30	52.45
New York	23.60	28.46	32.55	42.75	31.67	33.54	19.44	41.89	46.59	53.04	62.17	69.31
Philadelphia	29.78	35.33	38.34	45.07	32.21	34.46	19.58	41.11	46.41	52.66	62.06	69.23
Pittsburgh	25.68	30.43	34.47	41.36	34.34	29.51	20.40	41.06	46.51	54.05	61.11	68.83
Portland	29.67	37.16	41.51	33.10	34.82	38.20	53.64	56.85	61.00	64.10	66.10	....
San Francisco	29.58	36.18	40.25	45.78	38.70	39.18	27.12	51.14	63.09	72.30	78.49	86.10
Seattle	29.95	35.14	38.44	46.76	32.89	35.32	31.46	51.38	64.02	70.14	73.83	87.67
Spokane	21.08	30.56	33.56	36.69	35.18	25.16	20.32	41.00	42.02	46.30	....	58.32
St. Louis	20.21	30.76	34.12	32.54	28.06	28.31	16.57	33.45	38.46	43.65	51.02	57.48
St. Paul	23.96	28.55	32.40	35.20	27.86	28.12	15.25	34.13	36.60	41.88	46.58	53.31

Base Quantities. All HR products may be combined for quantity. Hot-rolled sheet, 10 ga x 36 x 96—120; Cold-rolled sheet, 20 ga x 36 x 120; Galv. sheet—16 ga x 36—120; Hot-rolled strip—⅛" x 1"; Plate ¼" x 84/; Shapes—I-Beams 6 x 12.5; Hot-rolled bar—Rounds ¾-2 15/16; Cold finished bar—C 1018—1" rounds; Alloy bar—Hot-rolled 8620—1¾" round; Cold drawn—1" round; Hot-rolled 4140—1⅛" round; Cold drawn—1" round. Check local supplier for additions or deductions from base.

*Prices at all points include metropolitan delivery charges.

METALWORKING PRICE TRENDS

The great price wring-out goes on

The industrial price scene now is a mix of disinflation and outright deflation.

In March, deflation ruled the scene. The Labor Dept.'s seasonally adjusted producer price index for finished goods moved down from February by 0.1 pct. This followed a 1.0 pct decline in January and a 0.1 pct rise in February.

Prices of producer goods in March, led by the third monthly sharp drop in energy prices, closed out the best quarterly decline since 1952.

On an annual basis, the fall in first quarter prices came out to a 4.1 pct annual rate.

Almost all of the first quarter decline in prices was due to tumbling energy prices. In March, the finished goods energy index fell 3.2 pct (38 pct annual rate), the fourth straight month of decline.

A number of economists are now talking of a producer goods price rise this year of less than 1 pct. Last year, these prices rose by 3.5 pct.

For capital equipment in March, the story was one of disinflation, not deflation. The price index for this equipment rose by 0.4 pct from the February level. In February, the rise was a 0.5 pct one.

Prices of key metalworking products, as listed on the table here, have caught the disinflation spirit. On average, the March price rise for the 22 product lines came out to less than 0.1 pct. On an annual rate basis this would come to 0.7 pct.

Exactly one-half of the listed product lines showed deflated prices, or no price changes at all, during March.

The steepest March price rise for these products was scored by plumbing fixtures and brass fittings—and that was only a 0.7 pct rise. It is felt that this rise reflected the spurting recovery in home building.

The metalworking product leading on the price down side in March was light trucks. Mixed reasons are given for this rise, and it remains unclear just what was the cause.

A number of economists feel that the disinflationary/deflationary price trend will hold at least through the second and third quarters. Business recovery, they note, is coming gradually. Market demand, in relation to supply capability, will likely remain in easy balance for some time yet.

Also, industry demands for capital will likely be moderate and not compete strongly with the government for available funds over the next few periods.

Latest Month Covered: March, 1983

Products	Index Reading For Month (1967 = 100)	Pct Change From Previous Month	Pct Change From Year-Ago Month
Metal Cutting Machine Tools	374.7	− 0.1	+ 2.7
Metal Forming Machine Tools	414.4	0	+ 4.1
Agricultural Machinery & Equip.	322.8	+ 0.1	+ 5.4
Construction Machinery & Equip.	349.6	+ 0.4	+ 3.1
Industrial Process Furnace & Ovens	358.4	+ 0.4	+ 4.1
Industrial Material Handling Equip.	285.2	0	− 0.9
Pumps, Compressors & Allied Equip.	347.8	− 0.5	+ 0.3
Fluid Power Equip. (Dec. 1970 = 100)	251.5	0	+ 4.3
Mechanical Power Transmission Equip.	314.5	+ 0.1	+ 0.8
Automobiles	218.9	0	+ 4.1
Motor Trucks—Light	273.3	− 0.8	+ 7.9
Motor Trucks—Heavy	317.6	0	+ 6.8
Railroad Equipment	357.4	0	+ 3.2
Fabricated Metal Structural Products	303.7	+ 0.4	− 0.3
Electric Motors	303.0	+ 0.2	+ 3.7
Valves (Metal, Ex-Fluid Power—Dec. 1982=100)	100.0	− 0.8	NA
Ball & Roller Bearings	331.2	0	+ 2.8
Cutting Tools & Accessories	273.4	+ 0.2	+ 1.1
Heating Equipment	241.1	+ 0.1	+ 2.4
Plumbing Fixtures & Brass Fittings	285.5	+ 0.7	+ 2.3
Metal Containers	331.6	+ 0.4	+ 1.3
Miscellaneous Metal Products	289.8	+ 0.4	+ 3.9

Data based on U.S. Labor Dept.'s Producer Price Index

FINANCIAL ANALYSIS: STEEL—A DEPRESSED '82 NONFERROUS—A WEAK YEAR

Steelmakers, had their worst year since '30s, only seven making a profit. Nonferrous producers felt the full bite of the Great Recession.

By Paul Cathey and Robert J. Regan

Steel

For steelmakers, 1982 was an unwelcome return to the grim days of the 1930s. As Republic Steel puts it in the company's annual report, "Not since the Great Depression has the American steel industry experienced a year like 1982."

The *Iron Age* Steel Industry Financial Analysis (see over) shows that among 26 of the large steel producers only 7 achieved a profit in '82—Nucor, Kaiser, Chaparral, Lukens, Interlake, Athlone and Carpenter Technology.

This was hardly surprising in a year that raw steel production fell 39 pct and steel shipments dropped 30 pct, according to American Iron and Steel Institute figures. And operating capacity for the year was below 50 pct.

To duplicate last year's unmitigated disaster, you have to go back to 1938 when the steel industry operated below 40 pct of capacity and lost $14.9 million. In 1933 at 33 pct of capacity, steelmakers had a loss of $59.7 million.

Negative records were established in many areas in 1982. Bethlehem's loss of $1.5 billion was the second largest loss in American corporate history.

Operating on the theory that if you have a lemon make lemonade, Bethlehem, National and others took large write-offs, hoping to pave the way for an earnings recovery this year.

Because of the losses, many companies paid no taxes, and obtained credits against future taxes. Nineteen of the twenty-six companies reporting are eligible for tax credits.

It cost steel companies heavily even to keep from losing more ground. United States Steel's loss of $361 million was kept from going higher by operating income from acquired Marathon Oil.

But in terms of debt, the Marathon purchase boosted USS' interest charges of $911 million. This was more than half the total steel industry's interest expense of $1.6 billion on its funded debt. Industry debt service charges last year rose over 100 pct from 1981's $825 million.

From first to last the steel industry's record in 1982 was a series of parenthesis and minus signs indicating losses, declines or tax credits. Net sales were down 12.3 pct. Operating profit was off almost 93 pct. Working capital fell 42 pct. Stockholders' equity declined 15.5 pct.

The industry's net loss for the year was $3.3 billion, compared with a gain of $2.2 billion in 1981.

Operating profit as a pct of sales was only 1 pct last year. contrasted with 1981's healthy 11.9 pct.

Nonferrous

For the nonferrous metals industry, 1982 wasn't a year to write home about—unless it was to ask for more money. Profits—where there were any at all—were down. So were sales, shipments, capital spending and just about any type of spending management could exert any control over.

In 1982, official Washington was still fighting inflation with high interest rates and business fought the consequent drop in consumer demand with layoffs, curbs on hiring, salaries and investment in new plant and equipment.

Primary and secondary metals producers held output schedules to minimums and their customers—from fabricators to finished goods makers—held inventories to a minimum.

The copper producers in the U.S. and Canada bore the brunt of the production cutting required to keep the world supply from getting completely out of hand. Even so, a drop of about 600,000 tons in North Africa output wasn't enough to keep the visible stock worldwide from increasing by 300,000 tons and the penalty was a decline in the average U.S. price to about 73¢ from nearly 84¢ a lb in 1981.

There were some signs of price improvement in the first quarter of 1983, coupled with general sentiment that economic conditions were improving, however slowly. But, even with another round of wage negotiations only a few months ahead, consumer demand still was leaving a lot to be desired, pricewise and volumewise. A mid-April report that one major copper producer was close to an unusual (for the copper industry) early labor agreement took some of the edge off the speculative side of things.

The aluminum producers, who also face a new round of wage bargaining this spring, spilled a lot of red ink last year and quite likely spilled more in the first quarter of 1983.

The aluminum price structure weakened a lot more than copper last year, despite steadily deeper production cuts, and some producers were finding it more advisable to purchase ingot on the open market than to reactivate idled facilities as the need (slowly) arose. Ingot prices started to improve smartly late in the first quarter, helped along by the producer buying, but was see-sawing in a narrow range as the second quarter got under way.

Prices for lead, zinc, nickel and molybdenum weakened in 1982 and were showing only faint signs of recovery in the opening months of this year.

Lower interest rates at the business level have provided some help, but demand for hard goods from autos and appliances on down isn't expected to improve until interest rates come lower at the consumer level and industry starts calling back idled workers.

This, of course, has an element of chicken-or-the-egg to it, and it is being posed against a background of rising Federal deficits that threaten the infant slide in interest rates. □

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SEE FOLDOUT NO 1-2

SPECIALTY STEEL: IS LONG-TERM IMPORT RELIEF JUST AROUND THE CORNER?

The industry is generally optimistic about its chances of a favorable decision from the President.

BY GEORGE J. MCMANUS

"I've really never been more optimistic," said Richard P. Simmons, president and chief executive officer of Allegheny Ludlum Steel Corp.

Mr. Simmons was speaking with reference to decisions pending on specialty steel imports. "I've never been more optimistic than I am at this time with regard to our chances of getting long-term relief."

One step toward relief was taken March 24 when the International Trade Commission (ITC) ruled that specialty steel producers had been injured by imports. On April 5, the producers asked for import quotas (*IA*, April 13) that would run for five years. The Commission's decision was due by May 6.

President Reagan will have until July 4 to act on the recommendation. Mr. Reagan has heartily endorsed the domestic industry's position. Charges of foreign subsidies are "well founded," he has said. "The injury to the domestic industry is clear."

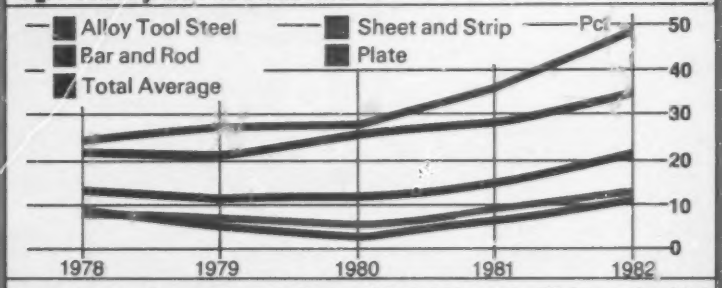
With this background, the specialty people say Mr. Reagan's decision should be favorable and prompt. "I would hope he would not wait until July 4," said Adolph J. Lena, chairman of AL Tech Specialty Steel Corp. and also chairman of the specialty industry's advisory committee.

The hopes of specialty people have been dashed before, but they are optimistic now and they are acting on this feeling. At a time when the buzzwords in steel are diversification and contraction, Allegheny Ludlum, for one, is building for a future in steel.

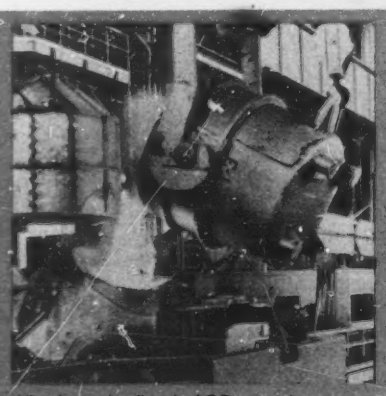
"You know we increased our R&D budget in 1982 over 1981," said Mr. Simmons. "We did it and we've made substantial progress. By the end of the year, we expect to be bottom blowing stainless steel in our BOF. Bottom and top."

This reaction is not unique. "We've held on to all our research and development," said Paul R. Roedel, president of Carpenter Technology Corp. "We

Import Penetration of the U.S. Specialty Steel Market



Source: American Iron and Steel Institute, AIS10-S (shipments), AIS Imports 2 and U.S. Department of Commerce, IM146 (imports) and EM546 (exports).



Allegheny Ludlum's AOD vessel.

U.S. Imports for Consumption of Specialty Steel

Quantity in short tons; Value in thousands of dollars

	1978		1979		1980		1981		1982	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Sheet & Strip	81,560	117,111	62,316	99,864	38,436	73,367	72,141	124,295	87,289	142,315
Plate	11,411	16,699	7,032	12,004	2,976	6,613	7,750	20,038	13,269	26,163
Bar & Rod	44,987	70,279	47,276	82,211	58,466	114,260	59,983	120,829	61,932	113,224
Total Stainless	137,958	204,089	116,624	194,079	99,878	194,240	139,874	265,162	162,490	281,702
Alloy Tool Steel	28,077	61,532	33,808	79,312	28,793*	88,574**	36,239	87,825	40,057	91,705
Total	166,035	265,621	150,432	273,391	128,671	282,814	176,113	352,987	202,547	373,407

*Data reflect downward revision of 1,096 short tons by the U.S. Bureau of the Census. **Value figures do not reflect the downward revision. Source: U.S. Department of Commerce, IM146, IM145X.

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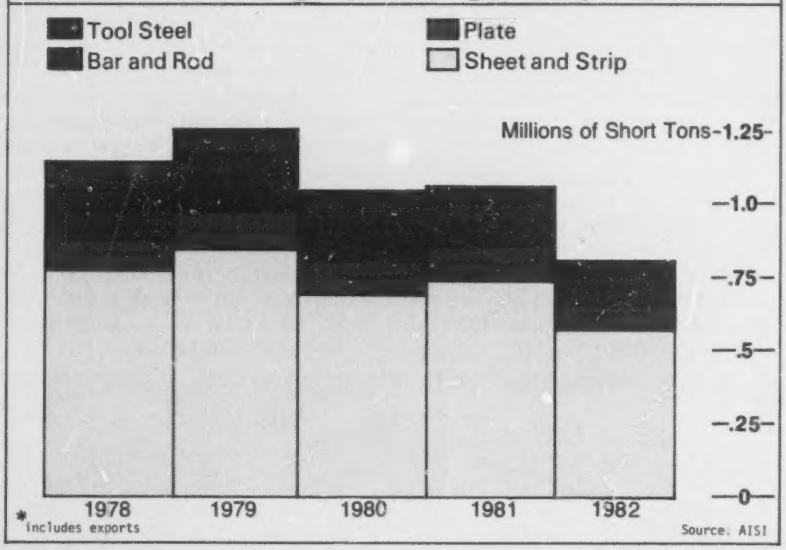
U.S. Production of Specialty Steel, by Type (Short Tons)

	Stainless Steel					Total Stainless and Alloy Tool Steel
	Sheet and Strip*	Plate	Total Bar and Rod	Total	Alloy Tool Steel**	
1978	782,922	83,333***	170,889***	1,037,144	91,816	1,128,960
1979	873,757	105,000	200,824	1,179,581	94,560	1,274,141
1980	700,240	101,000	187,485	988,725	78,655	1,067,380
1981	758,196	95,000	165,325	1,018,521	67,360	1,085,881
Jan.-Aug. 1981	558,271	63,000	106,517	727,788	45,863	773,651
Jan.-Aug. 1982	400,034	49,000	77,889	526,923	32,129	559,052

*Domestic shipments from AISI. These are estimates of production. **Domestic shipments from AISI. These data are estimates of production. ***Estimates from U.S. ITC Publication No. 1036.

U.S. Domestic Shipments of Specialty Steel*



did not reduce significantly the training areas, the alloy development, the market research and development."

Carpenter's bar mill expansion and modernization is going forward, although at a slower pace. This far-sighted approach is remarkable because 1982 was a year to try the souls and exhaust the patience of specialty people. Carpenter Technology had a loss in its fiscal year for the first time since 1933 (Carpenter did have a profit in the calendar year).

Given Carpenter's record of profitability, this showing had to mean 1982 was an incredibly bad year. "In the metals and minerals industries, it just seems to have been the absolute worst," said Mr. Roedel.

What made 1982 so bad was the combination of depressed demand and heavy imports. Shipments of stainless steel fell 23 pct in 1982. Shipments of tool steel were down 35 pct. In the same period, stainless imports were up 6 pct and tool steel imports rose 10 pct.

The net effect was that specialty imports captured 19 pct of a weak market. Individual segments of the market were inundated. Foreign producers claimed about half the tool steel and stainless rod markets.

Producers of high speed steels have been hit by the recession and by direct imports.

Also, they are being zapped indirectly by imports of cutting tools.

"Drape it in black," said Hugo G. Becker of the high speed steel situation. Cutting tools are coming in from mainland China and other unlikely places, added Mr. Becker, who is president of Braeburn Alloy Steel.

The stainless sheet and strip market has had a fairly vigorous recovery. "There's a semi-euphoria in stainless flat-rolled," said Alan M. Smith, president of Universal-Cyclops Specialty Steel.

Speaking in March, he noted that there had been three months of strong orders. He also noted that there was a spring spurt in 1982. "Then it went over the cliff. August and September dropped way back to about 50 pct of the prior months."

Similar words of caution came from Mr. Simmons of Allegheny Ludlum. "I'm worried about the fact that our business has improved faster than I expected it to," he said. The gain has been mostly in the consumer durables area. "We've called back over 400 people since the start of the year. I just don't want to see this thing be another boom or bust."

As of late March, orders of Republic Steel's Enduro Division were up 25 to 30 pct. Producing stainless sheet, strip and plate (also aerospace alloys), the division was getting more business from flatware, appliance, service center and auto companies.

Like others in the stainless sheet business, William Clark was nervous about the upturn. "The prices of raw materials are going up," said Mr. Clark, who is general manager of the Enduro Division. Customers are well aware that this could affect stainless prices, he indicates. "There may be some hedge buying."

With stainless imports up the last two years and demand down, there has been very tough pricing in sheet and strip markets.

This may explain why the import share of the flat rolled market has never reached the proportions of the bar and tool steel penetrations.

"My feeling is prices are so low there isn't too much room for imports to come in," said Mr. Clark. He noted that the Japanese have backed off Type 304 stainless sheet in the U.S.

In meeting foreign competition head-on, domestic producers have left little room for their own profits. The industry is "maybe a little foolish," said Mr. Clark.

Producers of specialty bars aren't worried about an impending boom. "The bar products area is still fundamentally a disaster," said Mr. Smith. The bar line of Universal-Cyclops includes stainless, high temperature, high speed, and tool steel alloys.

By mid-March, a few faint signs of an upturn were appearing in bar markets. "Our order entry has picked up modestly," said Dr. Lena. AL Tech makes stainless, tool steel, and high temperature alloys in bar, rod, wire and extrusion form.

"It's a little bit better," said Carl R. Moulton, marketing vice president for Jessop Steel Co. Mr. Moulton was referring to Jessop's stainless plate line. "Tool steels are still pretty slow," he said.

In Baltimore Armco is installing what may be the world's first horizontal continuous caster for specialty grades.

"We've left the bottom behind us," said R. W. Cardy, commercial vice president for Carpenter. Producing the full range of specialty bar products, Carpenter sells in markets that have been hard hit by imports. By concentrating on highly specialized products and applications, the company normally operates in areas that are largely outside the import territory.

"Carpenter tends toward the high side of the product line," said Mr. Roedel. In today's depressed market, he added, "we're having to compete against imports in some of the more commodity type products."

The stainless steel division of Armco Inc. has had some improvement in bookings. "It's nothing to write home about," said F. H. Cheffy, president of the division. Armco makes stainless bar products at Baltimore and stainless flat rolled at Butler, Pa. Mr. Cheffy is referring to bar products.

The aerospace market is in a state of flux. Demand for the high temperature jet engine alloys is being held down by the lag in commercial aircraft construction. Demand for military aircraft engines has been fairly steady, but this accounts for only about 25 pct of the high temperature market.

"It does not translate into a lot of business for us," says Mr. Smith of Universal-Cyclops. He doesn't expect the defense buildup to have much impact.

More important for high temperature alloys are commercial aircraft, which use large engines. Commercial activity is down and the advent of the Airbus has moved quite a bit of work abroad. Domestic producers, whose high temperature alloys are still specified for jets, are adjusting to this change.

The picture for aerospace structural alloys is a little different. There, defense spending is starting to create some demand. "Of all of our businesses, it's probably the firmest area," said Marshall Schober, president of Latrobe Steel Co.

"It's not back to the levels we saw in the super-heated times," said Mr. Schober. "On the other hand, some of the military programs have reached the hardware stage."

Latrobe's structural alloys go into landing gears, engine mounts, missile cases, shuttle fasteners and related components. The company's market has shifted from commercial to military dominance.

Latrobe's high speed business has been bad. "The worst I've ever seen it in my 33 years in the business," says Mr. Schober. "It's been heavily impacted, of course, with imports."

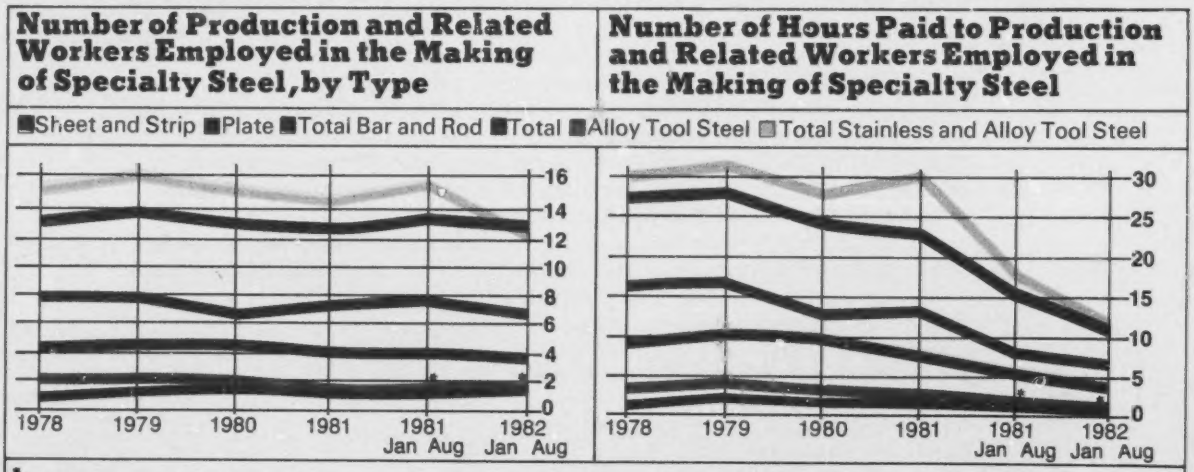
The various reports add up to a fragile recovery in the consumer markets for specialty steel and no real recovery yet in the capital goods markets. The condition of the economy has made for very strong feelings on the subject of foreign trade. Domestic producers say specialty imports must be put on a more predictable basis.

"When you look at the scope of the problem," says Dr. Lena, "the only remedy is a quota." A quantity limit is not the ideal solution, he says; it doesn't prevent unfair competition. "But it's the only manageable solution."

The specialty people have had experience with this solution. In June of 1976, quotas were established for stainless and tool steel imports. Domestic

Number of Production and Related Workers Employed in the Making of Specialty Steel, by Type

Number of Hours Paid to Production and Related Workers Employed in the Making of Specialty Steel



*Data cover period January-June.

Source: U.S. International Trade Commission Publications.

At Republic, cost cutting starts at the top

"Our initial effort was aimed at getting management's head on straight," says William Clark, general manager of Republic Steel's Enduro Division.

Mr. Clark is explaining why the division, which makes aerospace alloys and stainless flat rolled products, began its cost reduction drive at the top. Before addressing hourly workers, he indicates, the division felt it should check out the management operation.

This check has produced some interesting results. One of the task forces created by Republic recommended the elimination of a management layer. What's interesting is that two of the three task force members are from that layer.

The detachment shown in the recommendation is exactly what Enduro was after when it went to the task force approach. "We were trying to take people out of boxes on the organization chart," says Mr. Clark.

The division's target is a 25 pct reduction in the cost of sales. Working on this goal are three task groups, one for operations, one for production planning and one for marketing.

"They had to be able to write specific action plans," says Mr. Clark. There had to be procedures for measuring gains.

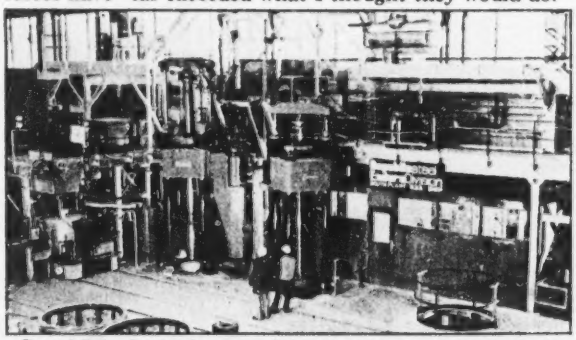
Having subjected management to objective scrutiny. Enduro extended its efforts to the bargaining unit. Part of the effort involved keeping workers posted on the financial status of the operation.

"When we're in the red, they will come up and make suggestions," says Mr. Clark. (The division is now in the black.)

Another aim is to make everyone understand the meaning of good performance. "We're trying to get our people closer to the market and the customer."

Workers have been assured that every suggestion will receive management's attention. This assurance was underlined when an idea submitted 12 years ago was acted upon with full recognition for the individual involved.

"We've seen excellent results," says Mr. Clark. The task forces have "far exceeded what I thought they would do."



Republic's electroslag remelt facility at Enduro's South Plant in Canton, Ohio which produces super-refined special metals, began a cost reduction program at the top by eliminating a layer of management.

There is now general confidence that the division will survive, he indicates. Workers are now pushing for growth, not just survival.

Mr. Clark considers this attitude remarkable for an operation where the average man has 25 years service and might be expected to coast toward retirement.

Somewhat surprisingly, the Enduro Division is just now setting up the labor-management participation teams called for in the steel contracts. Mr. Clark felt it was necessary to get through processes up and down the line on the proper wavelength before the formal participation program was launched.

producers and United Steelworkers of America had filed for relief under Section 201 of the Trade Act. This is the 'escape clause' section. It calls for trade curbs if domestic producers are being injured by imports. In theory, unfairness is not a consideration.

The quotas ran for three years and worked fairly well. Domestic producers prospered and modernized. Foreign producers complained but didn't seem too dissatisfied.

When the three-year term of the quotas expired in June of 1980, President Carter decided against an extension. Instead of killing the quotas outright, Mr. Carter announced they would be phased out over eight months.

This may have been intended as a sop to domestic producers, but the effect was entirely negative from a domestic standpoint. Although the quotas were immediately rendered useless in June of 1979, the nominal expiration date was February of 1981.

Under the law, the specialty companies could not file another 201 petition until two years after the official quota expiration. This timing was later to be critical.

The killing of the quotas left specialty people in No Man's Land just as a world steel glut was developing. The specialty grades weren't included in the trigger price system. They would be left out of the 1982 agreement which limited steel imports from Europe. Not surprisingly, specialty imports rose 32 pct to an all-time high in 1981. In December of 1981, the domestic producers and United Steelworkers of America petitioned the U. S. Trade Representative for relief under Section 301 of the Trade Act. The petition charged that imports from Brazil and six European countries were being illegally subsidized.

Section 301 permits unilateral government action against imports and it is directed specifically against subsidies. The specialty people went this route because they were still barred from Section 201 injury actions and because they wanted to address the whole import problem.

Dumping complaints and countervailing duty suits are piecemeal actions. It's like trying to shoot a flock of birds with a rifle, domestic officials say.

Section 301 permits broad action, but it has seldom been used and there was some vagueness in 1981 about its workings. The Trade Representative is supposed to confer with foreign countries and get them to eliminate abuses. If that doesn't work, the President can apply a variety of curbs, probably including quotas.

While relying heavily on the 301 case, the specialty companies and the Steelworkers followed this in 1982 with seven unfair trade suits.

These are still grinding their way through government agencies. The International Trade Commission has made preliminary findings of injury on products from Germany, Spain, Brazil, and Great Britain.

In 1982, meanwhile, the recession was deepening and the flow of imports continued. The Crucible Steel plant at Midland, Pa., was shut down. Guterl Special Steel Corp. filed for protection under the bankruptcy code.

The specialty people fumed and agitated during 1982, but nothing decisive happened until Nov. 16, the last day for action on the 301 complaint. Just prior to the deadline, there were reports that William Brock, the Trade Representative, had recommended temporary import quotas.

If that was the recommendation, it was rejected. The Administration's ac-

tion consisted of: 1. An expedited injury investigation under Section 201; 2. Talks aimed at ending abuses; 3. Monitoring of specialty imports.

President Reagan said the domestic companies were in the right but viewed from a distance, it appeared that he had simply killed the 301 complaint by coming up with a remedy that called for another investigation.

That really isn't true, said Dr. Lena. He explained that a hooker in Section 301 requires the government to offer matching concessions if it takes unilateral action against imports without a finding of injury. That doesn't sound very unilateral, but it's apparently the way things are.

There have been meaningful discussions with foreign countries on the specialty problem, said Dr. Lena, and the Administration has allowed the dumping and subsidy suits to go forward. Normally, these suits must be withdrawn when a 201 investigation is launched.

Under the 'expedited' procedure called for by Mr. Reagan, the International Trade Commission has taken about five months instead of the maximum six to come up with a recommendation. With a number of injury probes already completed, specialty people wonder why so much time was needed.

The dumping and countervailing duty cases give domestic companies some real leverage in securing a favorable remedy. The Commerce Dept. has made a preliminary ruling that German tool steel is being dumped in the U.S. by a margin of 61 pct. The British subsidy on stainless flat rolled is placed at 19 pct.

These and other findings could make quotas or some voluntary quantity limits the lesser of two evils for foreign countries. That was the case last year with carbon steel from Europe. The British have reportedly broached the subject of voluntary quotas for specialty grades.

In any case, the domestic specialty people feel they are nearing the end of a long road. While expressing optimism for their own case, they have their doubts about the legal machinery available for trade problems.

"The trade laws are simply not enforceable," said Dr. Lena. "You have to be so badly hurt before you can prove injury under the definition used that no timely response is possible."

In the specialty situation, he noted, there were three major shutdowns or financial failures before an injury determination had been made. Another flaw, he says, is that the law provides no penalty for unfair trade and no compensation for injury. The only requirement is that the foreign producer stop being unfair; no retroactive fines are levied.

The whole specialty argument for trade curbs rests heavily on the proposition that domestic mills are world leaders in process and product technology.

"Nobody's beating us," says Mr. Simmons of Allegheny Ludlum. On the basis of raw material costs, utility costs, and labor manhours, he indicates a company like Allegheny Ludlum has an edge over foreign competitors.

"We're developing the new alloys," he adds. "There are some new ones coming out of Sweden but really, most of the new alloys are United States inventions."

Dr. Lena of AL Tech cited a consultant study made purely for internal evaluation purposes. "They convinced themselves that we are the lowest cost producer in this market and we're fully competitive."

Given the technical situation, say domestic producers, there can be only one conclusion. "Since there is not technical superiority abroad," says Mr. Smith of AL Tech, "America should be able to compete very well in specialty steels.

"The only reasons there is not the apparent ability to compete is purely and simply the support those companies have gotten from their respective governments."

Domestic mills continue to modernize. At Baltimore, Armco is installing what may be the world's first horizontal continuous caster for specialty grades. Also going in at Baltimore is a GFM forge rolling mill. At Butler, Pa., Armco is 100 pct continuous casting and operates the world's largest AOD vessel.

Latrobe Steel began an extensive modernization in the Sixties. A new melt shop with three arc furnaces and a 60,000-lb vacuum induction furnace was installed in 1964. This was followed by an automated forging press and in 1968 by a continuous rolling mill.

"That was the biggest step we'd ever taken," says Mr. Schober of the mill. "Meanwhile, we were adding vacuum furnaces."

In 1975, Latrobe was acquired by the Timken Co. Under Timken, capital spending has been accelerated. Latrobe installed a new electroslag furnace last November. The company is now putting in an AOD vessel. It has installed new grinding, materials handling and testing equipment. Capacity of the wire mill has been doubled.

"In the last five years, we've spent 50 pct of our net worth," says Mr. Schober.

He has no doubts about the competitive superiority of Latrobe's plant. "There's no question in my mind. We've been through the mills in Sweden. We've got better equipment."

Carpenter's capital program has been slowed but the company still plans to spend $400 million on new facilities. The $125 million bar and wire mill is now scheduled for completion in September of 1985. A new GFM mill is being installed on schedule.

Like others in the specialty field, Carpenter has an active powder metallurgy program. Mr. Roedel sees a place for powder but he doesn't look for a wholesale displacement of conventional processing.

"If you can do it by melting, rolling and forming efficiently," he says, "that's the way to go. If you can't do it efficiently, that's where the powder process has got to be. I think the next 10 years will see more and more powder coming into more and more applications."

Universal-Cyclops reports good progress in getting its CAP powder process qualified for aerospace programs. (Consolidation by Atmospheric Pressure). It takes time to get a new product accepted, says Mr. Smith, because of the long gestation period of a new jet engine. The opposite side of this coin is that domestic alloys aren't likely to be dislodged from jet engines very soon.

AL Tech has installed two AOD vessels at its Dunkirk, N.Y., plant. This has made it possible to shut down the two smaller of four electric furnaces.

Universal Cyclops has launched productivity programs throughout its operations. One such program, CARE (Cooperation, Awareness, Responsibility and Efficiency) blends worker-management commitment to improving production techniques.

"When we had four furnaces in there before AOD," said Dr. Lena, "that melt shop had a rated capacity of 6,500 tons a month. Now, we can produce 12,000 tons a month with fewer people."

A number of the specialty mills have been taking advantage of the slack times to push for worker productivity. Universal-Cyclops launched a productivity program during a three-month shutdown of its Bridgeville, Pa., plant at the tail end of 1982.

The program included a formal presentation on the importance of cost and quality. This was followed by meetings of management with small groups throughout the plant. As the plant was restarted, production results were compared with prior periods.

"Initial indications are there is a 25 to 30 pct improvement," says Mr. Smith. Direct, candid communications by management is essential in this kind of effort, he indicates.

At the Enduro Division of Republic Steel, task forces have started at the top and are working downward in a program that is shooting for a 25 pct cost reduction. (See Box).

A major restructuring of the specialty steel industry was indicated when the Midland, Pa., plant of Crucible Steel was acquired by Jones & Laughlin Steel Corp.

The plant had been shut down by the former owner, Colt Industries, after sustaining large losses. A proposed acquisition by Cyclops Corp. fell through.

On Nov. 24 of 1982, the sale of Crucible to J&L was finalized. J&L said it would hire 250 to operate the electric furnaces, the AOD vessel and the continuous caster at Midland. This is a far cry from the 2,000 who had been employed at the plant, but there is speculation that J&L will eventually consolidate all its stainless melting at Midland.

Although terms have never been disclosed, it's believed United Steelworkers have agreed to sweeping contract concessions at Midland. This came up during contract negotiations of the eight steel companies which bargain jointly.

Richard P. Simmons, president of Allegheny Ludlum Steel Corp., registered unhappiness at the concessions negotiated by J&L at Midland. Allegheny Ludlum is a leading stainless producer and competes with J&L in that market.

The upshot was that Allegheny Ludlum departed from the joint group and negotiated its own contract. □

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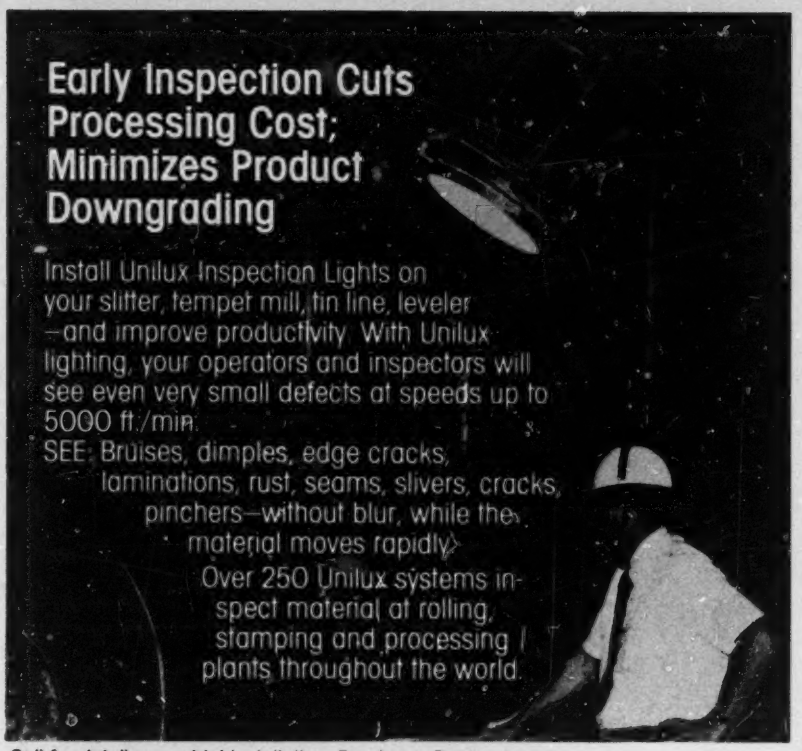
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